

## Patent Abstracts of Japan

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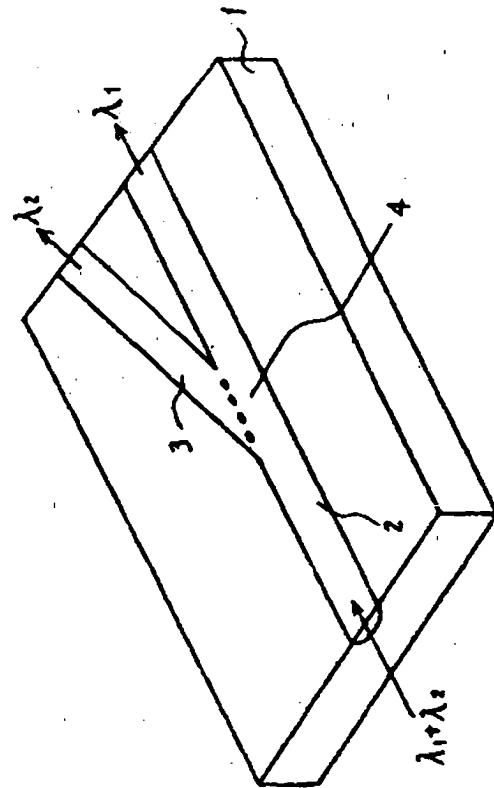
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TITLE : WAVEGUIDE TYPE OPTICAL  
 WAVELENGTH FILTER



**ABSTRACT :** PURPOSE: To improve mass productivity and to reduce costs by forming a part differing in refractive index from a main channel in the juncture of the main channel and a branch channel in the optical path direction of the main channel waveguide.

CONSTITUTION: A main channel waveguide 2 and a branch channel waveguide 3 having a refractive index  $n+\Delta n$  higher than the refractive index ( $n$ ) of a reference 1 are formed by a method of epitaxial growth or the like. Ions are implanted at specified periods in the juncture between the waveguide 2 and the waveguide 3 to form gratings 4. Since there is wavelength selectivity in the gratings 4, only the specific wavelength is diffracted to the waveguides 3. Thus the light of desired wavelength is branched by changing the periods forming the gratings 4 differing in refractive index from the waveguide 2. Then, the production of the waveguide type optical wavelength filters by a batch treatment is made possible, whereby mass productivity is improved and costs are reduced.

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